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Gas Journal

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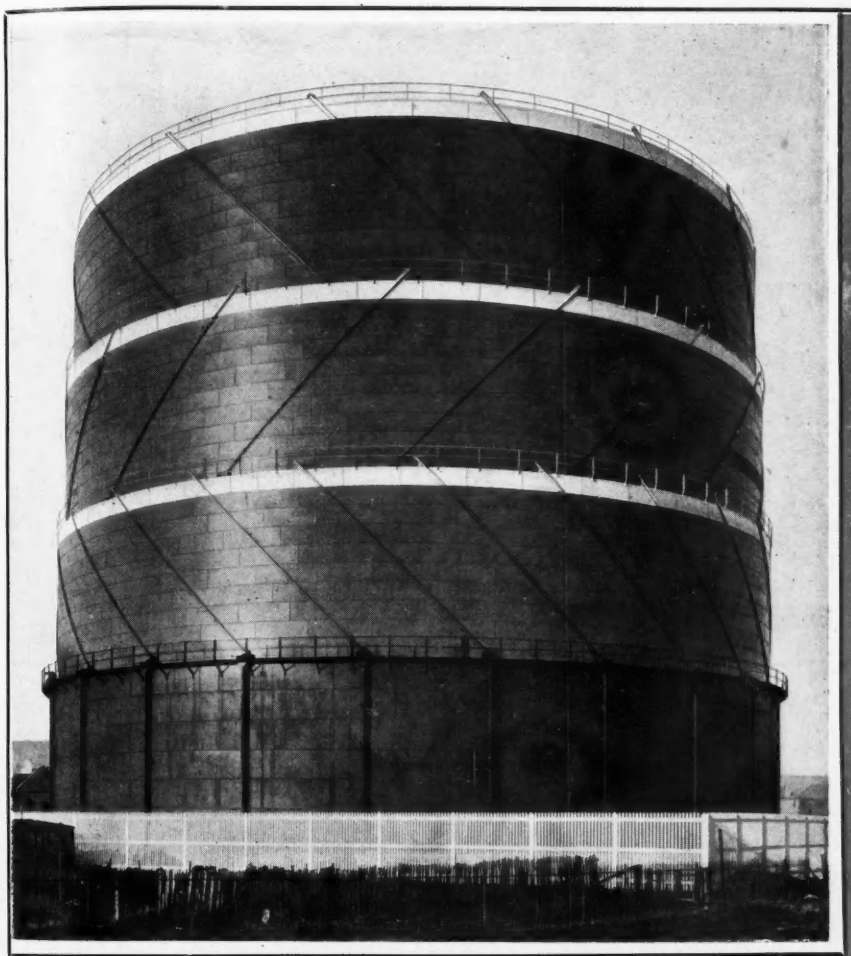

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CONTENTS

EDITORIAL NOTES

Directorate of Gas Supply 127
Voluntary or Compulsory? 127
Raw Materials and Exports 128
The South Shields Case 129
A Control Room "Pastime" 129

Personal 129
Letter to the Editor 129

Institution of Gas Engineers 130
National Gas Council 130
Leamington British Restaurant .. 130
An Anti-Corrosion Guide 130
Food Advice Bureau 133
Cookery Demonstrations at Fairbairn Hall 133
Symbols for Diagrams of Chemical Plant 133
Review of "Specification" 1941 .. 133
Hiring Gas-Works Plant 133

British Standard for Screwing Taps .. 133
Post-War Planning and the Gas Industry. By Eric O. Rose 134
The Rebuilding of Britain. By Charles Gandy 139
Coupons for Uniforms 141

Gas Products Prices 143
Gas Stocks and Shares 143

THIS WEEK'S ADVERTISERS

	PAGE
Aerospray Manufacturing Co., Ltd.	121
Alder & Mackay, Ltd.	144
Bale & Church, Ltd.	145
Belliss & Morcom, Ltd.	114
Blakeley, Firth, Sons & Co., Ltd....	145
Bratt, Colbran, Ltd.	115
British Gas Purifying Materials Co., Ltd.	146
Broadbent, J. C., & Co., Ltd. ...	146
Cohen, George, Sons & Co., Ltd.	146
Cowan, W. & B.	Cover III
Crane, Ltd.	117
Cutler, Samuel, & Sons, Ltd. ...	140
Danks of Netherton, Ltd. ...	144
Dempster, Robert, & Sons, Ltd.	Cover I, 145
Donkin Co., Ltd. (The Bryan)	Cover II
Eagle Range & Grate Co., Ltd. ...	114
Ellison Insulations, Ltd.	146
Ether, Ltd.	116
Evans, Joseph, & Sons (Wolverhampton), Ltd.	116
Fluxite, Ltd.	146
Frost, A. E.	145
Gas Meter Co., Ltd.	118
Gas Purification and Chemical Co., Ltd.	145
Glover, George, & Co., Ltd. ...	113
Glover, Thos., & Co., Ltd. ...	126
Goodall, Clayton & Co., Ltd.	Cover IV
Grant, David, & Co., ...	130
Grant & West, Ltd.	146
Green & Boulding, Ltd.	145
Hamilton, Archd. H., & Co., Ltd.	122
Harrisons (London), Ltd.... ...	145
Holmes, W. C., & Co., Ltd. ...	148
Horseley Bridge & Thos. Piggott, Ltd.	121
Humphreys & Glasgow, Ltd. ...	124
Jeavons, E. E., & Co., Ltd. ...	146
Keay, E. C. & J., Ltd.	148
Keith Blackman, Ltd.	148
Kings Patent Agency, Ltd. ...	145
King, Walter, Ltd.	144
Kirkham, Hulett & Chandler, Ltd.	144
Main, R. & A., Ltd.	138
Menno Compressed Air Greasecup Co., Ltd.	122
Mewburn, Ellis & Co.	145
Mitchell, H., & Co.	144
Newton Chambers & Co., Ltd.	132
Oxley Engineering Co., Ltd.	Cover II
Parkinson Stove Co., Ltd. ...	135
Parkinson, W., & Co.	126
Peckett & Sons, Ltd.	122
Pulsometer Engineering Co., Ltd.	Cover IV
Radiant Heating, Ltd.	119
Radiation, Ltd.	136, 137
Reavell & Co., Ltd.	144
Siebe, Gorman & Co., Ltd. ...	122
Slingsby, Walter, & Co., Ltd. ...	122
Sperryn & Co.	125
Staveley Coal and Iron Co., Ltd.	123
Stein, John G., & Co., Ltd. ...	130
Strachan & Henshaw, Ltd. ...	113
Sutcliffe, Speakman & Co., Ltd. ...	123
Technological Institute of Great Britain	146
Thomas & Bishop, Ltd.	143
Trotter, Haines & Corbett, Ltd....	145
Walker, C. & W., Ltd.	140
West's Gas Improvement Co., Ltd.	142
West's Piling & Construction Co., Ltd.	Cover IV
Westwood & Wrights, Ltd. ...	122
Wright, Alex. & Co., Ltd. ...	119
Woodall-Duckham Co., Ltd. ...	131
Appointments Vacant	146
Educational	146
Patents	145
Plant, &c.	145
Plant, &c., For Sale and Wanted	146

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For accuracy of registration Correct
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Other defects
Date of Mntr. 1867
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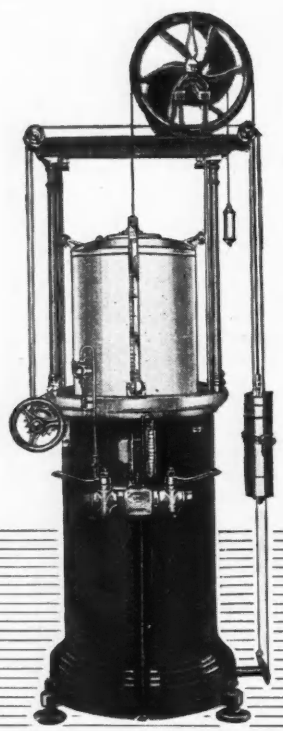

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GAS JOURNAL, OCT. 22, 1941

VOL. 236 93rd YEAR No. 4092

EDITORIAL NOTES

DIRECTORATE OF GAS SUPPLY

THE appointment of Mr. E. J. Fottrell to the staff of the Director-General of Gas Supply, Dr. E. W. Smith, is the latest published development in the changing relationship between the Board of Trade and the Gas Industry. It is interesting, and quite possibly a further confirmation of the direction we had already forecast for moves to come. Mr. Fottrell has long been recognized by his many friends in the Industry as a progressive, as possessed of independent and original ideas on a number of its problems, and as having, perhaps, too little scope either for their advocacy or their development amid the welter of detail and committee work forming the daily routine at Gas Industry House.

Meanwhile, there is ample evidence that our Editorial Note of two weeks ago expressed the very general thoughts of the Industry on the appointment of a Director-General, and on Dr. E. W. Smith as first holder of the office. We have, indeed, been heartily congratulated "on this wise and statesmanlike expression of the views of the Gas Industry, which will be another mark of how surely and accurately the 'JOURNAL' can weigh up the situation at all times." This is valuable corroboration, by one who "reads" the Provinces like a book, of the support which we foresaw for the Director-General, and of which we have discovered ample evidence in London and Home Counties contacts. In fact, the wave of enthusiasm for such action as may be in prospect—indeed, for almost anything which promises an end to vague malaise—is such as to render superfluous another suggestion we have received that our previous leader should be reprinted and a copy placed in the hands of every Director, Committee-man, and official in the Industry.

And so we await with quiet confidence the further development of the situation, with the satisfaction of knowing that the Director-General and his growing team well understand our problems, even if they do not approve of our past efforts (or lack of effort) to solve them.

VOLUNTARY OR COMPULSORY?

THOSE best qualified to judge the position are seriously disturbed at the Gas Industry's attitude—so far—to the economy campaign which it, along with electricity, has been asked to undertake. Naturally a number of undertakings, as always, have taken up the call in earnest, but by no means all; and there can be little doubt that unless a really concerted effort, and a strenuous one at that, is begun right away to persuade consumers to use less gas, fuel rationing is inevitable. Moreover, such persuasion must not be regarded as merely a short term policy, to be achieved by a few weeks' leaflet campaign. It must continue through the months, and it must result in showing the authorities a very definite and consistent saving in raw material for gas making (they have made their demand on a percentage basis), otherwise we shall be subjected to all the trials and difficulties of imposing a rationing scheme on our consumers. Nobody in the Industry objects to inconvenience when the nation's needs require it, but the worry is that nobody has seen suggested (just as we go to Press we have a letter from a gas engineer on the subject—see p. 129) any rationing scheme which appears even reasonably practicable; yet a scheme we shall surely have unless our voluntary efforts succeed.

It is important to stress very strongly that any undertaking which does not put forth its maximum effort to achieve the difficult result in question is jeopardizing not only its own position, but that of every other one. In fact, of the whole Industry, and of other industries as well. It is no use for anyone to neglect his own area and rely upon others to effect the required aggregate saving. It is a case where every little will be needed to make up the grand total. It is therefore disturbing to discover, upon recent enquiry at the B.C.G.A., that less than half the undertakings on their lists have even troubled to reply to the Association's offer of literature and other assistance. Not that we believe that this propaganda literature alone, good as it is, has the least hope of doing the trick unaided; far greater effort will be required than unsupported leaflet raids. At the same time, the B.C.G.A. has very properly performed one of its chief functions and supplied part of the ammunition required for the campaign; the response of the Industry is very disquieting, and inevitably makes one wonder what is being done in other ways.

In areas where the seriousness of the position has been truly grasped, efforts in various directions are being actively pursued, in some instances jointly with the electricity undertaking. It seems to be clearly a case where local conditions will decide what are the best steps to take, but a few important factors will be common to many. It is possible that there may exist opportunities of big economies in some of the heavy scale loads which are working on armaments, but the need for continuity and absence of disturbance—even perhaps at the cost of some degree of waste—will always have to be given full weight. For the domestic consumer there can be no escape. He has to be persuaded voluntarily to use less gas and less electricity, otherwise compulsion will be applied, to his still greater discomfort and our own. In considering householders, it is necessary to remember that many who are on slot meters are earning far bigger money than ever before, and it will be a natural instinct to be a little less careful of the gas tap—most likely purposely to make greater use of it. Economy here will be the most difficult to effect, and it is significant that slot consumers were let-out altogether under the abortive rationing scheme of 1939. On the other side, many of the "ordinary" consumers are among those whose incomes have been hard hit by the war, and they have already put into effect such gas economy as is feasible, especially where, dispensing for the first time ever with domestic help, they have more direct supervision over consumption than ever before.

One direction in which we are perfectly certain economy could be sought is in canteens, especially the many thousands which are run by voluntary helpers. We say this in no niggardly spirit; the majority of them are doing excellent work. But, manned as they are by relays of workers, using strange apparatus and having no personal interest in the gas or electricity bill, we are certain that by supervision and education a very substantial total saving could be effected taking the whole country into account.

And so we leave it to each gas undertaking to study and to apply every specific which offers promise of contributing, however slightly, to the grand total. But the matter is urgent—far more urgent than many appear to realize. We repeat, therefore, that *a definite saving of coal by our Industry has been demanded in the national interest. However disgruntled we are about short supplies in the past, let us all make every possible effort to effect the requisite saving in consumption. It will not be easy; but easier far, we believe, than the compulsory rationing scheme which will inevitably follow failure.*

RAW MATERIALS AND EXPORTS

WE enjoy continuous and heartening correspondence with our friends in the American Gas Industry and we see eye-to-eye with each other on all major problems concerning the defeat of Hitler and his brutal gang. We have read many books about American history, but we have come to understand much more intimately since September of 1939 the complexity of the United States in many ways, chief among which is, we think, an unparalleled diversity of nationalities, which in train and through democracy brings quantitatively and qualitatively an unexampled expression of opinions. Free expression of opinion is one of the brightest virtues of that great Democracy ; the strength of its war effort is for this single reason alone very sure indeed. But there is, as is well known, a vociferous group of war isolationists. The causes of at least some part of this group's volume of talk are not hard to discover, and naturally any weaknesses or supposed weaknesses in the policy of the United States Government are seized upon by them with avidity.

We understand that an argument recently put forward by them, without much probing into facts but sufficiently strong on the face of it to influence to some extent those holding 100% favourable opinion of the smooth working of the U.K.–U.S.A. war agreements and aims, is roughly on these lines : We Americans are exporting to you, Great Britain, in ever-increasing degree raw materials such as steel to be fabricated into armaments of one kind or another. This implies and in fact means depletion of our normal supplies to our own domestic market. Yet we find to our astonishment that your manufacturers are offering for export through their advertisements in the general and trade Press, including the Press of the Gas Industry, goods which for their production are dependent on these raw materials.

Now the solution of this seeming poser is in reality simple. It can be stated briefly as "inevitable time lag"; but we are going to examine the position in more detail because it is so necessary that the trading understanding between our two countries—further, the common cause—should not in any way whatever be clouded by misunderstanding. In the earlier part of the war the United Kingdom, in order to import the volume of munitions and other vitally important goods which it wished to obtain from the States, was obliged as long as the rule of cash and carry prevailed to send to the U.S.A. the maximum volume of exports. This was one of the purposes of the export drive of the early months of 1940. When the collapse of France made necessary concentration on the production of war materials and exports had to be more carefully husbanded, the United States remained the most favoured market. It was necessary to ensure exports to countries with dollar currencies or whose currencies were readily convertible into dollars, and those whose exports to the sterling area fulfilled requirements that would, unless supplied by the United Kingdom, involve these countries in payment in dollars. The U.K. was prepared to restrict supplies to the civil population in order to do so. United Kingdom exporters, including firms in the Gas Industry, were assured that their work was second in importance only to the actual production of munitions. We know that great efforts were made by them. As a matter of fact, exports to the U.S.A. in the first half of 1940 were considerably greater in value than in the same period of 1939, and were maintained above the 1939 level during the first half of 1941, in spite of the great difficulties of the second half of 1940.

Then came a decisive change of policy. The Lease-Lend Act was passed in March, 1941, and this altered the whole situation profoundly. Not only was the strain on our dollar resources relieved but, as the volume of military supplies put in process of manufacture for us mounted, the United States administration, already occupied with its own defence programme, found it necessary to place restrictions upon the civilian use of some of its scarcer materials. It became an obligation to see that the American manufacturer or exporter who was stinted or deprived of his raw materials in order that such materials should be sent to us should not find United Kingdom exporters offering manufactures of these materials to his own customers. The policy adopted was embodied in the statement issued as a White Paper on Sept. 10 last. We undertook to see that the materials obtained under the Lease-Lend Act which are required for the prosecution of the war effort should not in any case be diverted to the furtherance of private interests.

Now this led to some misunderstanding. The radical change of policy inevitably caused difficulties. But what we would emphasize is that the delivery of goods which have arrived in the United States in the days of Lease-Lend was planned in the days of cash and carry. The machinery of trade cannot be changed overnight; which explains why the U.S. manufacturer has found advertisements of goods which he thinks the United Kingdom should not, and in fact could not, now deliver. On the other hand, it has not been particularly pleasant to United Kingdom exporters to find that some of their long-prepared plans to earn dollars must now be dropped. In spite of all, however, we can send to the U.S.A. a large range of manufactured goods made from materials which can be spared by the munitions industries—and not constituting an offer to the American consumer of something which his own producers are precluded from providing him with.

We hope and believe that this somewhat bald explanation will do away with any idea held by the American Gas Industry, and, indeed, the American public, that Britain is seeking or has sought to avoid the obligations of the Lend-Lease Agreement. Actually the present export licensing system robs such notion of any real foundation in fact; and we call the attention of our American readers to an announcement displayed on p. 129 of this issue of the "JOURNAL." For, turning particularly to the American Gas Industry, we know how successfully and determinedly it is implementing the war effort, and of the sacrifices it is making and is prepared to make. From the broad outline let us consider a few details which in a measure perhaps bring home the situation more acutely. Everyone in any degree acquainted with the American Gas Industry knows how keenly and enthusiastically it has developed gas appliances with—to use an American expression—"glamour appeal."

But now this "glamour appeal" has had to be made subservient. This was discussed in the September issue of the A.G.A. *Monthly* by Mr. R. M. Conner, Director of the Association's Testing Laboratories, which have already proved their worth in the country's National Defence Plan. For example, since the War Department requires that all gas equipment must comply with existing American Standards as evidenced by its test and certification by the Testing Laboratories, it was not difficult for manufacturers to meet its needs. Again, construction of ammunition plants and other national defence industries away from large urban centres created an additional housing problem. To meet this need small houses were built in large numbers around these new plants. Special heating appliances were quickly designed.

To return to raw materials, under the defence emergency conditions numerous changes have been indicated to anticipate shortages of materials normally employed in construction of gas equipment. One of the most important shortages affecting many manufacturers involves aluminium for gas pipes and fittings. Copper or copper alloys are becoming scarce and it is increasingly difficult to obtain tin-plated products and fittings. Another shortage of materials affecting a majority of gas equipment manufacturers is a lack of brass rod commonly employed in the production of orifices. Burner valve manufacturers are faced with the necessity of using other materials for valve springs in place of phosphor-bronze. Because no replacements are available for capillary tubing, measures have been taken to limit lengths of this tubing employed in bellows type thermostats. Stainless steel rods used in automatic safety pilots are being reduced in size to a minimum in order to conserve supplies of this metal. These and many other changes are being investigated by the Laboratories to ensure safety in operation and compliance with existing standards for such equipment. In regard to steel, the Laboratories have already been requested by various sub-committees supervising development and revision of American Standard requirements for gas-burning equipment to conduct an investigation for the purpose of developing adequate strength and durability tests to replace current specifications for minimum thickness of materials. By stamping intricate forms in lighter gauge metal it is believed that strength and durability equivalent to that of heavier gauge sheet metal

designs now employed may be obtained. Chromium-plated fittings and zinc castings may be discarded in favour of enamelled cast iron. That is briefly the position as outlined by Mr. Conner.

On the other hand our gas engineering friends in America must have sympathy with the British Gas Industry regarding the conditions which it is facing. Over here we are precluded from pushing the domestic sales of gas, as we have already discussed on the previous page. Installation of gas appliances is for the most part only carried out in circumstances where other forms of heating do not exist on the premises; electricity and gas do not compete. The urgent National Fuel Campaign is in progress. In an attempt to avoid rationing of domestic consumers, with all its expense, irritations, and clumsiness, gas and electricity are in fact working closely together in this campaign. Throughout Greater London, for instance, gas and electricity undertakings are jointly distributing the Government's economy leaflet. It is not easy for enthusiastic salesmen, whose peacetime job was to sell more gas, to make a complete *volte face*, and actually "sell" the idea of buying less. But the makers of ships, tanks, planes, shells, and other munitions of war must come first; other users must cut down their consumption of fuel—that is the fundamental consideration.

THE SOUTH SHIELDS CASE

ONE of the most important decisions of recent years with regard to local authority income-tax liability was delivered last week in the King's Bench Division by Mr. Justice Lawrence. Since the decision in 1913 in the case of Sugden *v.* The Corporation of Leeds the rule has been that the trading departments of local authorities must be assessed separately for income-tax purposes unless the local authority is authorized by public or private statute to form a common fund into which all receipts from their trading departments are paid and from which all payments by the local authority are made.

In other words, unless a common fund, usually known as the general fund, is authorized, the gas, water, electricity, transport and other departments will pay tax on their profits, and a loss in respect of one department will not be allowed to be set off against a profit in another department. It has therefore become the practice for the Acts and Orders made in respect of local authorities to provide for the establishment of a common fund, and the income-tax liability of the Local Authority would depend upon the balance standing to the credit of this fund. Further Public Statutes, such as the Local Government Act, 1933, have sanctioned the formation of a common fund, and since that date, in so far as boroughs are concerned, private legislation has merely amplified the provision of the Public Act.

Frequrntly Private Acts and Orders have laid down that payments from the common fund to an amount corresponding to the credits to the fund from a particular trading department must be utilized in certain specified ways for the benefit of that department. Whether in such circumstances the income-tax liability of the local authority depended upon the amount standing to the credit of the common fund was never entirely free from doubt, but it was argued that the fact that separate accounts had to be maintained in respect of each department and that certain payments from the common fund were earmarked for the benefit of a particular department did not affect the general principle as established in the Sugden case.

This issue was tested in the case of the South Shields Corporation, in which the decision of the Income Tax Commissioners was overruled by Mr. Justice Lawrence. In his judgment the learned Judge agreed that the question was one which must be decided by an interpretation of the Acts and Orders of each local authority. He decided that the provisions of the South Shields Corporation Act were not such as to permit the Corporation to be assessed upon the balance standing to the credit of the common fund, and therefore that each trading department must be separately assessed for income tax.

The South Shields Corporation does not, of course, own a gas department; but let us imagine a local authority having both a gas and electricity department. On the gas department there is a profit of £2,000 and on the electricity department there is a loss of £2,000. If the local authority is to be assessed on a common fund the loss would presumably cancel out the gain. If, however, the departments are each to be assessed as separate departments, the gas department would be debited with income-tax on £2,000.

While it is true that the case related solely to South Shields, it is assumed that an extremely large number of local authorities are working under provisions similar to those contained in the South Shields Act. The case will therefore be regarded as a test case and will probably affect the majority of local authorities in the country. With income-tax at its present high level this position is extremely serious, and it may be found that the case will be taken to the Court of Appeal and eventually to the House of Lords.

A Control Room "Pastime"

We learn of a gas undertaking which has adopted a first-class, useful wartime game. At its A.R.P. Control Room there is a plan of the works. Darts are thrown at the plan, three at a time, to represent H.E. bombs dropped from enemy aircraft. The officials on duty then diagnose what is likely to have been damaged in the actual event, and the necessary "action" which should be taken to safeguard the imaginary situation. This type of pastime speeds thought and concentrates ideas likely to be of great value in the event of real bombing. We suggest that actual models of the works would add to the zest and usefulness of such A.R.P. exercises.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in the "Journal" should not be taken as an indication that they are necessarily available for export.

Personal

Mr. W. HARDING, Manager and Secretary of the Ripley Gas Department, is among the new magistrates appointed for Derbyshire.

* * *

Mr. T. R. WICKS, Technical Assistant to the Middlesbrough Gas Department, has been appointed Assistant Engineer and Manager to the Workington Gas Department as from Nov. 1.

* * *

At the annual meeting of British Furnaces, Ltd., held on Oct. 16, Mr. PERCY HOPKINSON, who has been Manager since the inception of the Company, was elected a Director.

Letter to the Editor

Fuel Economy

SIR,—A nation-wide publicity campaign has recently been launched by various authorities, at the instigation of the Ministry of Mines, with the purpose of impressing upon the general public the need for economy in the use of all classes of fuels in order that the requirements of the war factories and fighting services may be adequately met.

As the Manager of a Gas Undertaking, it is therefore my duty to support the B.C.G.A. National Fuel Economy Campaign, and I am required, by various means put at my disposal, to exhort gas consumers in our area to "Use less Gas and help to smash Hitler." If, by so doing, such a desirable end could be accomplished, the means would be justified. But I rather incline to the opinion that the use of this slogan is liable to cause a little distrust and confusion in the minds of our consumers, who, I hope, still remember our last intensive publicity campaign which had the purpose of telling them that "Every Therm of Gas produced helps to win the War." I have not decided yet how I will explain this *volte face* if asked to do so, but I am quite decided that this new effort will not produce the desired results.

However, I digress from my main point, which is that if propaganda fails on this occasion, compulsory rationing will be substituted for voluntary economy, and we will be faced with the unpleasant task of applying and operating a cumbersome rationing scheme similar, I presume, to that set out in the Fuel & Lighting Order, 1939. If, however, it is eventually found necessary to compel reduction of gas consumption, we have, in most instances, the necessary machinery to operate a system of control which appears to me to be reasonably fair and equitable, simple to operate and capable of producing the desired results.

Block tariffs were created to encourage increased consumption of

gas, and as a wartime expedient, could be utilized to discourage gas consumption by a simple reversal of the principle involved. That is to say, as consumption increased price would also increase in a very definite manner. The following scale will illustrate the point:

For the first 5,000 cu.ft. used per quarter	..	Basic price
„ next 25,000 „ „	..	plus 100%
„ remainder	„	„ 200%

I appreciate the anomalies of such a tariff but it has simplicity as its main feature, and by modification and adjustment, many of the hardships could be removed. For instance the basic quantity to be allowed could vary depending on the size of house as shown by the following simple classification.

	Basic block
Up to 5-apartment house	5,000 cu.ft. per qr.
Over 5-apartment house..	8,000 „ „

Furthermore it may reasonably be suggested that the use of gas for lighting would entitle a consumer to an additional basic ration during the winter quarters.

Coal and electricity would, of course, require to be dealt with in a similar manner, and consequently each consumer would receive an equal ration at a fair price and could obtain more only by paying the extra price. Special cases would be dealt with by the Local Fuel and Lighting Officer, who would also have power to adjust basic rations in certain circumstances. The additional revenue accruing to the individual undertaking from all gas sold over the basic price would be collected annually from each undertaking by the Revenue Authorities on behalf of the Treasury, who in turn would set it aside to defray cost of war damage to gas undertakings.

The work involved in operating a reversed block tariff would be slight compared with that required by a full scale rationing scheme, as it is assumed that most gas undertakings have the block tariff in operation already. Undertakings with sales below, or price above, predetermined levels could reasonably be exempted from the scheme.

In a recent Editorial Note you expressed the hope that no complicated or unwieldy compulsory rationing plan would be adopted, and I am interested to know if you consider the foregoing scheme to be such.

Yours &c.,
Oct. 17, 1941. "GAS ENGINEER."

The Institution of Gas Engineers

The Council of The Institution of Gas Engineers met in London on Tuesday, Oct. 14. The following were some of the matters dealt with:

Committees of Enquiry.—Reports were received of the work of the four Committees of Enquiry recently appointed by the Council to follow up certain of the matters dealt with in the Institution Symposium on "The Gas Industry : 1941 and After." It was indicated that good progress is being made by these Committees.

Technical and Education Committees.—The work of the Technical Committees and of the Gas Education Committee of the Institution was discussed, including matters relating to camouflage and gas oil storage.

Gas Research Board.—The Chairman of the Council of the Gas Research Board gave a survey of the current activities of the Board and stated that the 2nd Annual Report of that Council will shortly be published.

Membership.—Sixteen applications for membership of the Institution were approved for submission, together with those already approved since June, 1941, for ballot by corporate members in November, 1941. Eight applications for Studentship were accepted. The annual subscriptions of nine members serving in H.M. Forces were remitted.

Benevolent Fund.—It was reported that there had been a gratifying response to the President's appeal for subscriptions to the Benevolent Fund by Deed of Covenant. Ninety-three more members had since adopted this method, making a total of 237, and this would enable the sum of £237 to be claimed from the Inland Revenue authorities in respect of income-tax. The generous action of the Eastern Counties Gas Engineers and Managers' Association in increasing its contribution for this year from ten guineas to £25 was gratefully recorded. It was reported that grants had been made from the Benevolent Fund to three new applicants for assistance.

Board of Trade.—The announcement of re-organization in the Board of Trade in relation to the Gas Industry and, in particular, the appointment of Dr. E. W. Smith, C.B.E., as Director-General of Gas Supply, was received with satisfaction.

Mines Department.—Matters under review by the newly appointed Fuel Efficiency Committee of the Mines Department, on which the Gas Industry is represented by Mr. E. V. Evans, O.B.E., were considered. Draft recommendations of the Advisory Committee on Benzole Recovery were also discussed.

Collaboration with the United States of America.—A report was made of information supplied by the Institution to the American National Technological Civil Defence Committee through a prominent member of that Committee who recently visited this country.

Publications.—In view of the need for economy in paper it was resolved that certain matters, notably the List of Members, normally included in the Transactions of the Institution, must be omitted during the war period. The List of Members will be made available separately to members on application.

National Gas Council

A meeting of the Central Executive Board of the National Gas Council was held at Gas Industry House, No. 1, Grosvenor House, London, S.W. 1, on Tuesday, Oct. 7, at 1.15 p.m. Sir David Milne-Watson, Bart., LL.D., D.L., presided.

The Board of Trade and the National Gas Council.—The Board agreed to accede to the request of the Board of Trade that Mr. E. J. Fottrell should be seconded to assist the new Directorate of Gas Supply.

Post-war Planning.—It was decided that representatives from the National Bodies should be appointed to act as a nucleus of a Committee to collate information and to formulate suggestions for post-war planning of the Gas Industry.

Benzole.—A Report from the Benzole Committee on the documents submitted to them by the Board at their meeting in September was approved, and it was agreed that the recommendations contained therein should be forwarded to the Mines Department.

Coal.—A Report on the general position was received and discussed.

Gas Charges: General Licence dated June 9, 1941.—It was reported that the views of the Board of Trade had been sought as to whether the General Licence would authorize a reduction of the amount of discounts varying with the quantity consumed which had normally been granted by certain companies. The Board of Trade had replied that such a reduction of discount would be contrary to the Defence (Gas Charges) Order, 1941.

General Licence dated Aug. 15, 1941.—It was agreed that the Board of Trade should be requested to receive a deputation from the National Gas Council with regard to certain matters in which it was considered that the operation of the General Licence might be inequitable.

Suggested Rationing of Gas and Electricity.—The Report of the National Gas and Electricity Committee was considered, and it was agreed that every member of the Gas Industry should support, to the utmost possible extent, the Government's Economy Campaign.

Date of Next Meeting.—Nov. 11.

Leamington British Restaurant

Our photograph shows the kitchen at the new Leamington British Restaurant. The cost of the installation was kept down by transferring to the Restaurant practically the whole of the kitchen and stillroom equipment from the kitchen at the Town Hall, which had been fitted up a year or two before the outbreak of war, and which has dropped out of use in wartime as the rooms which were used for official luncheons, dinners, &c., are now used for various war activities. The

kitchen gas equipment includes a four-oven "Radiation" range and "Chester" hotplate, a two-pan fish range, two forty-gallon "Infanta" boilers, four-burner salamander, forty-gallon water heater, hotcloset and serving counter, a four-hundred-pint per hour "Jackson" boiler, and two two-oven "Yorkist" solid fuel ranges with gas conversion burners. Meals served a day average nearly 600, the maximum number at a single sitting being 714, while hot meals for schools are to be sent in special containers. Since the opening on Aug. 21, over 21,000 meals had been served up to Oct. 17.

An Anti-corrosion Guide

A handy quick-reference Anti-Corrosion Guide has been issued by Wailes Dove Bitumastic Ltd., Hebburn, Co. Durham, to enable the user to find the best methods of protecting any given surface from corrosion. Some 160 surfaces of various materials are indexed under eight main classifications, and key letters for each of them refer to the 16 varieties of the Company's products. In turn, the same key letters serve as an index to detailed descriptions of each of the products and their specialized properties for the particular purposes required.

Food Advice Bureau

A Food Advice Bureau has been opened in the showroom premises of the Derby Gas Light & Coke Company. It was opened with a flourish because the Company were fortunate in being able to secure the support of Mr. Jack Hulbert and Miss Cicely Courtneidge at the opening ceremony. This was made possible by the kindness of Mr. Oswald Cray, Managing Director of the Grand Theatre, where these artistes were appearing. The Education Authorities, the W.V.S., and

the Townswomen's Guilds and the Press were actively interested in the venture, which was, of course, in support of the Ministry of Food Kitchen Front Campaign. Although the Bureau has been opened only a few days Mr. Thomas Smith, Distribution Superintendent of the Gas Company, tells us there is evidence of a tremendous interest in this movement. Our photograph shows Mr. Hulbert and Miss Courtneidge with the Company's Resident Demonstrator.

Cookery Demonstrations at Fairbairn Hall

A special series of lectures and cookery demonstrations is being given by Miss Mathieson, of the Home Service Section of the Gas Light & Coke Company, to the mothers, wives, and sweethearts of the boys of the Mansfield House University Settlement at Fairbairn Hall, in the Albert Dock.

The warden of Fairbairn Hall, Mr. Ian Horobin, is now away on active service, but the audience had the pleasure of hearing his mother, Mrs. M. A. Cloudesley Brereton, introduce Miss Mathieson at her opening lecture which took place on Oct. 2.

"It is appropriate," said Mrs. Cloudesley Brereton, "that we should meet together to see if we women can do even more than we are doing at present for the homes of our boys who are fighting abroad or doing their bit on the home front. It is because I have known, for upwards of a quarter of a century, the untiring and unselfish work done by Miss Willans, the Principal of the Women's Home Service of the Gas Light & Coke Company, and the devoted band of women who work under her, that I have come to-day to introduce to you Miss Mathieson, who will try to help you in your food problems; not only now in these difficult days of war, but after the war, when the full and varied fruits of the earth are once more available to all."

Symbols for Diagrams of Chemical Plant

The British Standards Institution has recently published British Standard No. 974, "Symbols for Use on Diagrams of Chemical Plant," which should be of particular interest to the chemical industry.

In October, 1938, the Chemical Engineering Industry Committee appointed a small Exploratory Committee consisting of representatives of the Institution of Chemical Engineers, Society of Chemical Industry, British Chemical Plant Manufacturers' Association, and the Association of British Chemical Manufacturers, to review proposals which had been received from the International Standards Association for the adoption of Symbols for Chemical Plant, and to consider whether it would be of advantage to industry to issue British Standard Symbols to be used in diagrams relating to such plant. The Exploratory Committee reported unanimously in favour of such a British Standard set of symbols, and as a result the Chemical Engineering Industry Committee appointed a representative Committee for this purpose.

This Committee has taken into consideration all the symbols submitted by the International Standards Association, the various British Standard Symbols already in existence, and symbols in use by various industrial organizations. Wherever these were considered suitable they have been adopted or, after due consideration, appropriately modified. In their selection the Committee proceeded on the principle that, in order to keep the number of basic symbols to a minimum number, only those symbols most necessary should be adopted, and that they should as far as possible be sufficiently pictorial to enable the units of plant represented by them to be readily recognized. The Committee have endeavoured to avoid the use of any symbol which might be identified with a proprietary article.

Copies of this publication may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W. 1, price 2s. 2s. 3d. post free).

Review of "Specification" 1941

By "Critic"

The late appearance of the 43rd edition of *Specification* this year is explained by the Publishers (The Architectural Press, Ltd., 45, The Avenue, Cheam, Surrey) in a small insert stating that on the eve of publication enemy action caused complete destruction of everything connected with the book and was entirely responsible for the delay.

The Publishers and all connected with the preparation of this year's *Specification* are to be congratulated upon producing the usual complete guide for the Architect and Builder in the face of exceptional difficulties.

A special article on the "Structural Aspects of Air-Raid Precautions," by C. W. Glover, Author of *Civil Defence*, comes first in the alphabetical list of sections, and is worthy of special attention at this time. Comparative costs of various methods of protection for personnel, the design and ventilation of shelters, and the strengthening of existing buildings are handled in such a way as to be of maximum practical value to the reader.

The section dealing with Demolition (General Conditions of Contract) will be referred to these days more frequently than many would perhaps wish, and the condition dealing with the protection of public footways might well be extended to cover possible damage to underground works in view of the current methods of blasting, or of virtually "pulling down" unsafe buildings. Some authorities actually insist upon demolition contractors laying down a two-foot thick carpet of soil on footpaths where exceptionally heavy falls of masonry are likely to cause damage.

The Structural Steelwork section is another particularly useful piece of work, including as it does a typical framing plan and a typical column schedule. Bending moments for various loadings are dealt with and other useful tables regarding the properties of British Standard Rolled Steel Sections are set out.

Again it is to be deplored that town gas interests suffer by comparison with the comprehensive section dealing with electricity. Certainly gas and coke burning appliances are dealt with under the heading of "Heating Engineer," but it is to be hoped that the Gas Industry will soon rise to the occasion and give the architect a properly co-ordinated "Gas Engineering" Section in this publication. Gas apparatus must play an important part in the post-war rebuilding of Britain, and it is possible that the 1942 edition of *Specification* will be one of the principal guides to those engaged in the replanning of our homes, offices, and factories.

It should not be beneath the dignity of The Institution of Gas Engineers, with the co-operation of the Society of British Gas Industries, to advise the British Commercial Gas Association as to what could be done to bring modern gas engineering practice more forcibly to the architects' notice through the medium of *Specification*.

Refrigeration, air-conditioning, and overhead radiant panel heating are all refinements which the new Britain will require. Town gas is the best and most economical source of heat for these purposes; therefore let us have confidence in the future and give the architect all the necessary information before the 1942 edition of *Specification* goes to press.

One often hears the complaint that the architect neglects to make proper allowance for the inclusion of gas apparatus, and perhaps the best way to overcome this difficulty is to provide more practical data relating to gas services, meters, cookers, refrigerators, space and water heating apparatus, and even industrial gas heating equipment.

Specification is a handy compendium for all engaged in the design of new buildings and is well worth the cost, which has not been advanced beyond the pre-war price of 10s. 6d.

Hiring Gas-Works Plant

Maximum rates at which various types of building and civil engineering contractors' plant can be let out on hire are fixed by the Control of Rates of Hire of Plant Order (S.R. & O., 1941, No. 1277) made by the Minister of Works under the Defence Regulations. Many of the items mentioned in the schedule to the Order are commonly in use by gas undertakings and gas-works contractors, and the Ministry has invited us to call attention to the fact that the rates apply to plant hired out not only on Government work, but also private work, and that while the Order is in force it is illegal to exceed the rates in any circumstances. The schedule sets out in detail the hiring charges applicable to every type of plant covered by the Order, together with the standard hiring periods. For instance, the charges for portable compressors range from £4 to £16 per week of 48 hours, according to type and grade; mobile compressors from 9s. to 12s. per hour; concrete mixers from £2 to £6 per week according to size and capacity; and portable, petrol, or electric pumps from £2 to £4 10s. per week. The schedule rates include the provision of the plant and the supply of spare parts, but do not include the cost of fuel, lubricating oils, grease, drivers, operators, or labour on repairs. Hire is not payable during breakdowns, nor when plant is idle owing to obvious inefficiency of the plant due to incompleteness unless caused by the negligence of the hirer.

POST-WAR PLANNING AND THE GAS INDUSTRY*

By ERIC O. ROSE, B.Sc., Assoc.M.Inst.C.E.

THE subject is wider than the limits of the Gas Industry, but the Author feels that no apologies are necessary for presenting a Paper such as this to a meeting of a gas association. Our Industry plays, and will continue to play, an important part in the social and economic structure of this country, and its activities cannot be ignored in any scheme of national planning. Because of this, members of such an Industry should endeavour to understand both the principles and implications of planning.

Post-war planning has been given good publicity of late. The devastation of war is not limited to homes and factories in the "blitzed" areas, nor even to the depression or suppression of whole industries. The war is steadily but surely changing our whole social and economic structure. We hope also it is bringing a changed mentality to the rising generation, so that we may never again view ourselves with the complacency of those years immediately preceding 1939.

The Government has clearly recognized the need for post-war planning and a special Minister has already been appointed for this purpose. It has also been made clear that he is intended to cover a wider field than the mere physical planning required to control the development of land to the needs of population and industry. It is not surprising then that in all branches of life there is talk of planning in the air. That the infection has reached the Gas Industry is evidenced by the Institution Symposium of 1941.

In the years prior to the war the case for planning was voiced only by a few enthusiasts. Other than schemes, often carried out with little or no publicity, by certain corporated industries, the only planning activity to be seen on the surface was that carried out under the Town and Country Planning Act of 1932, the Restriction of Ribbon Development Act of 1935, and the Trunk Roads Act of 1936. To the uninitiated it might appear that National Planning is something new—something peculiar to this age—something perhaps resulting solely from the rapid increase in the mechanical development of natural resources. But this is not so. Planning is as old as civilization.

In modern industry we might take the electricity grid as a fair example of private planning. We know it had Government backing, but the responsibility for obtaining this must be taken by private enterprise. We in the Gas Industry have said bitter things about our competitors, but if we compare the vast grid that covers the whole country to-day with the meagre little local undertakings that supplied very limited urban areas at the close of the last War, we cannot but see the immense achievements of the Central Electricity Board. There is no doubt that the existence of the grid is responsible for the remarkably few failures in electricity supply in the "blitz."

Another example may be seen in the replanning of the steel industry that took place in those short rearmament years before the war. Although undertaken at Government request the whole industry was replanned from within, and had not this work been done at that time the country would have found itself in a very sorry plight indeed.

The planning has been strictly limited and entirely sectional. Although by 1939 much good work had been done, the empty gaps were both many and conspicuous. There was no central planning authority and no means for co-ordinating the work of different ministries and industrialists. Other than what work the Government had undertaken in preparation for war, there was no national plan.

In July, 1937, a Royal Commission was appointed, under the Chairmanship of Sir Montague Barlow, to report on the Distribution of Industrial Population. The report, which runs to 320 pages, was completed in August, 1939. Excepting war measures, this report comes as near to recommending a National Planning Authority as anything yet published. From its title it will be seen that though covering an immense field, the terms of reference are again only sectional. No mention is made of the position of agriculture. The Commission was to report only on the subject of the increasing tendency to urbanization.

The report makes most interesting reading, but it is here only possible to deal with the conclusions.

The majority of the Commissioners recommended the appointment of a National Authority, in the form of a Board under a salaried Chairman and three other members. The function of this Board would be to conduct research into the whole matter and advise the Government and industrialists on the location of industry. The only executive powers recommended were powers to refuse permission for the establishment of new industrial undertakings in the Home Counties. The Board was also to report what further powers it might require.

A minority report of three Commissioners stressed the urgency of a report on further action at the earliest possible moment, and asked for the extension of restrictive powers to the whole country instead of the Home Counties only.

Three other Commissioners submitted a second minority report, in which they called for the creation of a new Ministry which would at once take over all existing planning legislation and the powers of Commissioner for the Special Areas. This Ministry would set up regional Boards and would have power to authorize the expenditure of Government monies in the necessary redistribution of industry.

Lastly one Commissioner published a "Dissentient Memorandum" in which he pointed out the total inadequacy of all that had been done previously.

This report has been dealt with here at some length if only to show the appalling time that is taken and the difference in opinion that is encountered in even endeavouring to formulate part of a national plan.

We are familiar with the controls established under the Defence Regulations. These are accepted by all as necessary to the war effort. It is obvious that, when victory is attained, these restrictions cannot be suddenly removed. It is equally apparent that measures undertaken under war conditions are unsuitable for controlling post-war development. Nor would the indefinite continuation of such measures be tolerated.

Some central planning Ministry must now be assumed, and such a central authority must work in co-operation with all other Ministries and all major industries. Against this the regional nature of planning must not be lost sight of, and it is to be hoped that while central control is maintained, regional representation will not be shut out.

Into such a plan as this, in as short a time as possible we hope, we may be thrown. Apart from the interest we may take as citizens in the whole, we, as servants of the Gas Industry, must take a special interest in power supply. As individuals, too, we must watch that our professional status is properly upheld.

In the past the supply of heat and power has been a matter of open competition. The Gas Industry has competed with electricity, oil, bituminous coals, anthracite, and furnace coke. The interactions of the competition with the coking industry have been very complicated, and much information has been given in the Technical Press and in a number of admirable Papers. The Gas Industry in the south of England has for many years paid its way by the development of a first rate domestic coke market. Yet it has always feared the dumping of cheap coke and kept water gas plants ready for action up its sleeve. It is to be hoped that a national plan will provide the means for a final settlement of this matter and proper co-ordination between the coking and the gas industries.

The mad rush to oil for central and furnace heating was checked some years ago by the tax on imported fuel oil and the gradual realization of the threat of war. Oil is an international question. Whatever international settlement is made will have its reflection in the home use of imported fuel oils. More than that cannot be said at present.

The burning of raw bituminous coal, either in open grates or small private boiler installations, is an evil which has been well known for a great many years. We must see that those who plan our reconstructed areas take sufficient subsequent interest in them to see that they are not begrimed with soot. No technical or economic barriers to this reform exist. It is merely a matter of the will to conquer.

Politicians who talked of a Clean and Brave New World have, in the past, turned to electricity, though any technical basis for such behaviour might not have been apparent. The extent to which gas has been employed in industrial processes, for canteens, cleansing stations and the like must not be hidden. We cannot doubt that, provided we are alert, we shall continue to hold the field in those spheres where our product has proved its worth. For the period of the war a truce has been called between gas and electricity. To those who are unbiased there appear definite fields in which one or the other commodity is particularly adaptable. Some are clearly defined, while in others the odds are more even. Up to the present the consumer's choice has been influenced by special tariffs which may or may not bear any proper relation to the cost of the service rendered and, again, may vary even in adjoining localities. Without bringing compulsion on the consumer to accept either gas or electricity it should be possible to legislate for control of special tariffs. It is no more unreasonable to control a special tariff that may favour one electricity or gas consumer over another than it is to control gas tariffs and profits on the standard price basis so widely adopted in the past. Under such control as this the uses to which gas and electricity are put would bear a closer relation to the true economic value of the services given.

Perhaps at this point some reference to possible future developments in the electricity industry may be opportune. At the close of the last war much publicity was given to centralization of electricity generation, and schemes based on generation at the pit head were spoken of with much fervour. Actually development did not take place on these lines, and our electrical friends even thought it fit to plant a super power station right in the West End of London. The war has shown that the scheme of decentralization adopted was the wiser plan.

To-day, despite recent remarkable developments in the construction of high pressure boilers, the overall efficiency of generation stands not so very much higher than it did, and the Gas Industry's claim to be distributing some 75% of the available energy in coal, against some 25% to 30% by the electricians, is still largely valid.

There is one line of development in electrical generation that must not be overlooked. That is the thermal-electric station. A number

* From a Paper to the London and Southern District Junior Gas Association, Friday, Oct. 3.

of stations of this kind have been in operation on the Continent, and the subject was aoly brought to the notice of British Engineers by Mr. Sidney Bryan Donkin some years ago in a Paper presented to the Institution of Civil Engineers. Brief references to the economy of the stations have again been noted in the Press recently. In electrical generation the greatest loss of heat is in condenser water. This heat is rejected at a temperature of some 90°F. and is dissipated either over a cooling tower or into a watercourse. If the exhaust steam pressure is raised the resulting efficiency of electrical generation will be lower, but the condenser water temperature will be higher. If, therefore, means can be found to make direct use of the hot condenser water or pass-out steam the heat thus distributed can be claimed as a credit and the overall efficiency of the station raised to some 70%.

Mr. Donkin has outlined a new type of town, built around such a thermal station. Hot water or low pressure steam is distributed for direct use for domestic purposes and central heating, as well as for intensive horticulture, while electricity is both consumed locally and supplied into a grid.

The compactness of such a town, on account of the short distance hot water can be distributed, limits its size, but the planting of such towns at reasonable intervals over, let us say, East Anglia, would not be an impossibility. The proposals also fit in with the definite trend towards decentralization brought by the war.

Turning to our own Industry, it can be seen that many changes, both external and internal, are to be expected. In the matter of location of industry the best authorities on planning are ihsistent upon decentralization. They point out the continuous trend of industry and population to the London area, and the many evils that have arisen therefrom. The vast dormitory suburbs, without any sound social basis, the hours spent in arduous travelling, the difficulty of egress for recreation, the spoliation of good agricultural land by sprawling ribbon development, and last, but not least, the strategic danger. Not only has London grown, but population drifting from the distressed areas of the North and Wales has flocked into innumerable satellite towns over the whole of the south-east of England. If this tide is turned back the consumption of gas in the various areas concerned will be substantially affected, and considerable adjustment in the capacities of gas manufacturing stations will be necessary.

It should be emphasized that decentralization does not mean spreading industries indiscriminately over the countryside. The planner's ideal is the compact, self-contained town of reasonable size and containing all classes of the community in their normal proportions. Translating this into terms of gas supply it may involve a large interconnected supply grid, but it does not involve uneconomical rural distribution over vast areas of ribbon development.

The Institution Symposium of 1941 opens up lines of thought in all branches of the Gas Industry. It deals in a clear and concise manner with enough internal planning to occupy gas engineers for many years to come. Subsequent discussion has been published week by week in the Technical Press, and it would be superfluous here to deal with matters which have so ably been dealt with elsewhere. As was suggested, at the Institution meeting, it is for Local Associations to take these matters one by one and thrash them out.

Members of this Association are technicians upon whom the planners of a new Gas Industry, and in wider spheres of a new Britain, will depend. Some here will no doubt attain positions of considerable responsibility. It is up to Juniors to prepare themselves for this. Not only is education in technology necessary. An accurate knowledge and lively interest in other industries and the whole trend of human affairs is essential if we are in future to avoid the pitfalls of the past. Mr. John Terrace in the June Symposium made a valuable contribution to the subject of the education of Gas Engineers. The gas engineer has to be a sound chemist, civil and mechanical engineer, and fuel technologist. To become these he must attend evening classes three or four nights a week for many years, while undergoing practical training in the daytime. The Author is not advocating a life of ease, but how under these conditions can the would-be gas engineer develop those contacts with the outside world that are essential if, in his maturity, he is to be able to view himself and his job in the right perspective with the surrounding world?

It is a pity that the London University does not offer an Engineering Degree in Gas Engineering subjects in the same way as for electrical students. Three years' full-time study, in a British University, alongside men of other faculties, is a foundation to a career not to be despised.

There are to-day in the Industry many hundreds of young men with sound technical training, who have so far achieved little but a large share of arduous routine work and a meagre salary. On the other hand, many others without the years of technical and practical training have advanced to good executive positions. It is largely a matter of temperament and general ability, but the moral is obvious. Look up and look wide.

THE REBUILDING OF BRITAIN*

By CHARLES GANDY,

Chairman of the National Smoke Abatement Society's Executive Committee

ALMOST without our noticing it the smoke abatement movement has entered a new phase. It is no longer the pioneer movement of half a century ago, when the now President of the National Smoke Abatement Society and other far-sighted men first gave organized and scientific direction to London's wish to end the ever recurring smoke fog, nor the merely educational movement of the early decades of the present century. The demand is not merely that every citizen, wherever he or she works, should have the opportunity of a home in clean healthy air and pleasant surroundings. We have attempted that already, by building our private houses and our housing estates at ever-increasing distances from centres of employment, adding always to the daily journey to and from work, to the extent, cost, and complexity of sanitary and other services, of roads and transport, as the dinginess or vulgarity of town, like an invading army, encroaches ever more deeply on the countryside.

The demand is rather to reverse this process, to mobilize the energies and resources of our civilization, to bring again clean and healthy air, and something of the loveliness of nature, into the heart of our cities, so that they may once more be places desirable and delightful to live in, and not only to run away from.

It is indeed impossible to think of the immense task of post-war reconstruction without reference to the problem of smoke. This is well shown by the distinguished contributors to the discussion in the last issue of this JOURNAL. As stated by Alderman David Adams, M.P., "the smoke plague is as unnecessary in this era as overcrowding, slums, and poverty," and by Sir Francis Fremantle, M.P., "the possibilities of a smokeless atmosphere, especially in the areas to be replanned and rebuilt, and any new areas to be developed, are not mere dreams of beauty, but are practical certainties."

Practical Measures—Three Aspects

A consideration of the practical measures to be adopted falls naturally into three parts, according to whether our attention is directly chiefly to the fuel used, to the apparatus for its combustion, or to the products of combustion escaping to pollute the neighbourhood. Our thoughts may turn primarily to the coal-house, to the fireplace, or to the chimney-top. The first of these is the province of the fuel technician and of the electrical, gas, and low temperature carbonization industries, the second that of the architect and engineer, and the third that of the public health officer and police court. All are related to the more general problems of reconstruction and of town and country planning.

Considering first the fuel to be used, we find a growing conviction that there should be a National Fuel Policy in respect of the coal resources of the country, and especially those used in the home market. It is still true, as was stated by the Samuel Commission after the last war, and emphasized in a Paper recently read before the Institute of Fuel by Mr. John D. Troup, that "no comprehensive survey has been made of the heat, light, and power requirements of the various industries, or of the country as a whole."

The making of such a survey following the present war will be facilitated by the war-time machinery of registration, and in order that the necessary statistics may be made out it has been suggested that all consumers of solid fuel, whether for industrial, business or private purposes, should register with one or more suppliers, and that no such fuel should be supplied without a licence and the obligation to make the necessary returns to the Department concerned with the survey. Such a survey should not, I think, have any ulterior motive to coerce people into using one kind of fuel rather than another. Its sole purpose should be to gather reliable information as to the country's needs and resources, and so to assist existing and future efforts for the better use of the latter; to be a storehouse of information and advice on the availability of various types of natural and artificial fuel and the requirements of the public, leading to the better siting and distribution of coal utilization plants, electricity and gas supplies; and by disseminating information to encourage a wiser use of fuel by the public generally.

The survey should link up with a considerable expansion of the important work already being done by the Fuel Research Board, the Coal Utilization Joint Council, the Atmospheric Pollution Committee of the Department of Scientific and Industrial Research, and other bodies, including the Regional Smoke Abatement Committees and Local Authorities.

Some critics would go further and suggest, like Professor Reilly, a tax on the burning of untreated coal, or like Miss Marion Fitzgerald, the ultimate prohibition of its use in open grates. Personally I should prefer to retain the fullest liberty for consumers to chose whatever fuel they may prefer. A tax on raw coal, particularly while no sufficient smokeless substitutes are available, would bear heavily on the poorer classes of the community, who depend mainly on solid fuel.

* From *Smokeless Air* (Summer Number).

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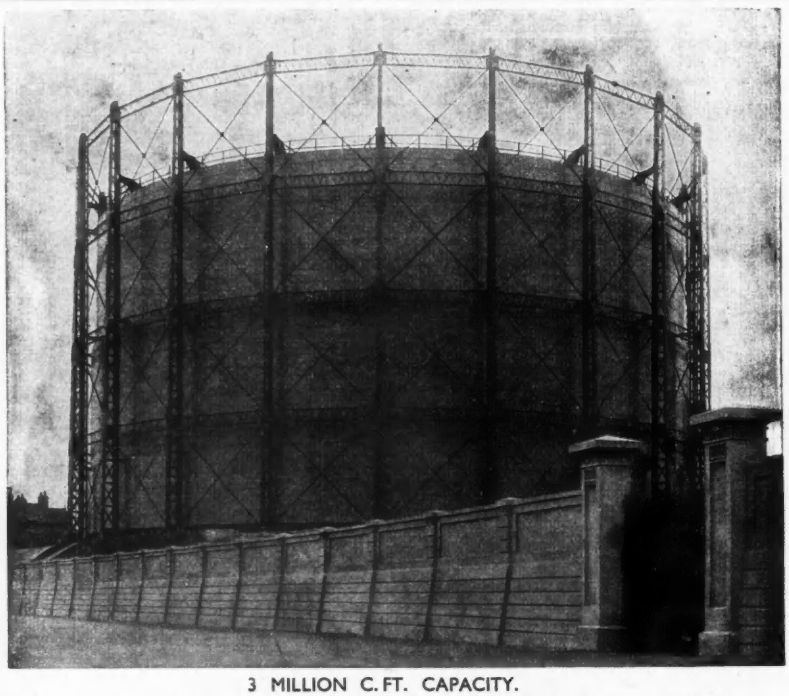

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Control of Appliances

The second method of smoke control—*i.e.*, that of the apparatus used in the combustion of fuel, also finds many advocates. It is already provided by Section 5 of the Public Health (Smoke Abatement) Act, 1926, now replaced by section 104(2) of the Public Health Act, 1936, that building by-laws may require the provision in new buildings other than private houses, of such arrangements for heating and cooking as are calculated to prevent or reduce the emission of smoke. Unfortunately, it has not been found possible to make any such by-laws, defining with sufficient accuracy the nature of the arrangements to be provided. Even if such by-laws were made and applied to all such new buildings, there would be difficulties of administration, and it is hard to see how the owners of fireplaces suitable for the burning of smokeless fuels could be prevented from using them for the burning of fuels which produce smoke. Unless otherwise prevented, they will tend to do this so long as raw coal is cheaper and more easily obtained.

There is, however, no doubt much to be said for the control of heating and cooking arrangements in new buildings, and this would probably be best carried out by requiring building plans to show such arrangements and to be passed by a qualified combustion engineer.

The most effective use of control in relation to new buildings would, however, be in connexion with a system of zoning, and the suggestion of Mr. James Law, Chief Smoke Inspector of the Sheffield, Rotherham and District Smoke Abatement Committee, that Town Planning Committees should have at least one member capable of advising and assisting in matters of combustion appliances and that there should be complete zoning in respect of residential areas, central areas, light industrial areas, and heavy industrial areas, is particularly interesting.

Such complete zoning could not, of course, be done too hurriedly, and in areas already built up its effects might not be immediately felt. It would, however, especially if combined as he suggests with Regiona, Planning, be of the greatest value from the point of view of smoke abatement.

In the case of central areas, and of new light industrial areas, smokelessness could be assured immediately; in the case of residential areas, and areas already built up but zoned for light industry only, this could be done progressively, as the supplies of smokeless fuels improve; while heavy industrial areas could to an increasing extent be segregated, and they, too, could be the subject of progressive improvement. Such zoning would not only speed the development of the electric, gas, and smokeless fuel industries, the modernization of much industrial plant, and the greater use of smoke-preventing apparatus, but would be most important as an aid to efficient and helpful smoke inspection.

Control of Observation

The third method above mentioned, that of observation of chimneys for smoke emission, is well established so far as regards industrial smoke, a "smoke nuisance" being a punishable offence under the Public Health Act, 1936. It is true that administration varies in different localities and offenders are not always brought to book, but the knowledge and tact of the inspectors under the more active authorities, and particularly where regional control has been adopted, have often been effective in winning the co-operation of industry, and reducing the need for legal action. Smoke from non-industrial sources is, generally speaking, quite uncontrolled by law. Of many reasons for this, one may be found in the lack of sufficient smokeless substitutes for the fuel required, another is the difficulty of supervision. While it is comparatively easy to spot the offending chimney of a large factory, it is obviously very different where the chimney is one among the many thousands in office buildings and private dwellings. Yet the smoke from such chimneys is of a more injurious nature to health, architecture and vegetation than industrial smoke, since owing to the lower temperature of combustion it contains a greater proportion of tars and acids. In any adequate scheme of reconstruction something must certainly be done about it, and here again the solution lies, I think, in the zoning principle.

In May, 1938, a suggestion was put before the Public Health Committee of the Manchester City Council that an experiment in the control of non-industrial smoke should be made in a limited area of the city. It was suggested that the central area should be selected for several reasons, some of which may be worth while to recapitulate:

(1) The majority of premises in such an area—*i.e.*, large modern blocks of offices and commercial premises—are already equipped with smokeless apparatus.

(2) Smoke emission from a city building where old-fashioned coal fires are still used is very heavy, smoke often being emitted from every chimney and coming from a score or more of private offices.

(3) To occupy for business purposes the central area of a city is in itself a privilege and has accompanying responsibilities.

(4) The cost of conversion would generally be very small in proportion to rent and rates. In such an area, especially after heavy bombing, there will be few houses occupied by working-class people, and these could, if necessary, be excepted. Modern blocks of flats, if any, in such areas, can and should be smokeless.

(5) Central areas are densely populated during daylight hours.

(6) The adoption of smokeless methods by its leading citizens and the possibility of being able to walk through an area without a single smoking chimney would be of the greatest value as an example to others.

(7) Any scheme for the replanning of central areas should include the provision, near the city centre, of one or more parks or public gardens, and if possible, the planting of trees in connexion with architectural features and in shopping boulevards, and this cannot be done successfully where there is heavy sootfall from adjoining buildings.

The proposal was not only approved by the Committee, but endorsed by many leading citizens, and was followed by a thorough survey of the area, undertaken by the Health Department, which proved it to be practicable. There is little doubt that similar proposals would be generally acceptable elsewhere.

As a factor in town planning the proposal has great advantages—it is simple, practical, adaptable to local circumstances, and capable of logical expansion. In an area where complete absence of smoke emission is the rule a policeman on his beat can detect an offender as quickly as an A.R.P. warden detects a defective black-out. It may well be that the gradual and voluntary extension of such "smokeless zones" in areas already built up, and in new building estates, leading logically to the more confident expansion of the various smokeless fuel industries, is the real key to the solution of the smoke problem. For that purpose the necessary powers must, of course, be conferred by Government on the authorities concerned.

Coupons for Uniforms

One hundred and one questions arising out of the clothes rationing scheme are answered in "Clothing Coupon Quiz," the twopenny Board of Trade booklet which is having a good sale through the Stationery Office and local booksellers and newsagents. When we received a review copy we were told that the booklet provided ready reference to official rulings on the scores of questions put to the Board of Trade and to retailers since the scheme was introduced on June 1. But it did not cover *all* the queries to which the coupon system has given rise. An important point not touched upon, and one which in fact had not been settled at the time of its publication, concerns the supply of uniforms for employees of gas and other public utility undertakings. The only reference to uniforms in the booklet, other than those for the Services and defence organizations, is one dealing with bank messengers, waitresses, and others engaged in civil occupations, in which cases traders must collect the usual number of coupons per garment for uniforms supplied to an employer for his staff, and the rate of collection of coupons by the employer from the employees is to be arranged between employer and staff In the case of meter inspectors and other uniformed workers in the Gas Industry it has now been ruled that the employees must give up coupons according to the following scale :

For men: External uniform (not greatcoat or mackintosh), nine coupons; jacket only, five; trousers only, four; greatcoat or mackintosh, or both, three; boots or shoes, or both, six. For women: External uniform (coat and skirt, or trousers, with or without shirt and tie, nine coupons; jacket, with or without shirt and tie, five; skirt or trousers, four; boots or shoes, six.

These figures represent the total number of coupons to be surrendered to the undertaking between Sept. 1, 1941, and Aug. 31, 1942, and they are calculated to be equivalent to the saving of one year's wear and tear of ordinary clothes as the result of wearing uniform. It is proposed that the coupons shall be surrendered in quarterly instalments. On clothes rationing generally, "Quiz" is a very comprehensive guide for both shoppers and sellers, but in case any questions remain unanswered, readers are directed to the appropriate authorities, at specified addresses, to clear up any doubtful points. General enquiries which cannot be dealt with by trade organizations should be addressed to the Board of Trade, Pine Court, Bournemouth.

The Autumn Meeting of the Midland Association of Gas Engineers and Managers will be held at 135, New Street, Birmingham, on Oct. 30 at 2.30 p.m.

Mr. William Boa, who has won the cup symbolizing the Scottish Allotment Championship, is the foreman gas meter maker of Milne's Meters, Ltd., at their Edinburgh Works. Mr. Boa only took up allotment work four years ago.

Our Attention has been drawn to the fact that the references quoted in a recent article ("JOURNAL" of Sept. 17) on benzole recovery by refrigeration were ante-dated by two Papers by P. M. Schuftan ("Von den Kohlen und Mineralölen," 1931 (4), pp. 151–74, and "l'Industrie Chimique," 1934 (21), pp. 95–100), which are also the source of fig. 2 given in the article.

A Meeting of Members of the Institute of Fuel to which friends are cordially invited will be held at the Connaught Rooms, Great Queen Street, Kingsway, London, W.C. 2, on Thursday, Oct. 30, at 2.30 p.m., when Mr. E. Brett Davies will present a Paper entitled "Liquid Pitch Fuel." The reading of this Paper will be followed by a discussion. The Chair will be taken by the President, Mr. W. M. Selvey. This Meeting will be preceded by an informal luncheon, price 6s. per head, to which friends of members are cordially invited at 12.45 for 1.15 p.m. A Joint Meeting of the members of the Institute, together with the members of the Association of Tar Distillers, will be held in the Queen's Hotel, Leeds, on Thursday, Nov. 20, at 2.30 p.m. Members of other Institutions and friends of members are cordially invited to be present and take part in the discussion following the meeting, when Mr. E. Brett Davies will repeat his Paper entitled "Liquid Pitch Fuel." Colonel W. A. Bristow, Vice-President of the Institute, and Chairman of the Association of Tar Distillers, will preside.

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Gas Products Prices

The London Market

Oct. 20.

Prices of Coal Tar Products in the London market remain at about the following levels:

Pitch nominal; creosote about 5d.; refined tar 3¾d. to 4d.; pure toluene under the Ministry of Supply Toluene No. 2 Order 2s. 5d.; pure benzole 1s. 10d.; 95/160 solvent naphtha 2s. 5d. to 2s. 8d., and 90/160 pyridine 13s. 6d.; all per gallon naked; refined crystal naphthalene £23 per ton in bags. All prices are *ex* Makers' Works.

The Provinces

Oct. 20.

The average prices of gas-works products during the week were: Pitch and Crude Tar,* Toluole, naked, North, 1s. 10d. (controlled by the Control of Toluene No. 2 Order, July 5, which fixes the maximum price at which this material may be sold). Coal tar, crude naphtha, in bulk, North, 11d. to 1s. Solvent naphtha, naked, North, 1s. 9d. to 1s. 10d. Heavy naphtha, North, 1s. 9d. to 1s. 10d. Creosote, *ex* works, in bulk, North, liquid and salty, 4½d. to 4¾d.; Scotland, 4¼d. to 4¾d.; low gravity, 4½d. to 4¾d. Fuel Grade, 4d. to 4¼d. Carbolic acid, 60's, 3s. 7½d. to 3s. 9d. Naphthalene, £15 to £20. Salts, drained, £6 to £6 10s.; whizzed 72°, £7 15s.; 78°, £9 5s. Anthracene prices fixed by Controller. Heavy oil: Unfiltered anthracene oil (min. gr. 1,080), 6d. to 6½d.; filtered heavy oil (min. gr. 1,080), 6½d. to 7d.; heavy anthracene oil gr. less than 1,080, 5¾d. to 6d.

*In regard to pitch and crude tar prices we would ask readers to refer to the editorial note on p. 396 of the "JOURNAL" for Sept. 10.

Tar Products in Scotland

GLASGOW, Oct. 18.

No material alteration has taken place in the market during the week. Prices continue steady to strong.

Refined tar is still quite active at 4¾d. to 5d. per gallon for delivery in the home market and about 3½d. per gallon for export, both f.o.r. naked.

Creosote oil finds a ready outlet as available with prices steady as under: Specification oil, 5¾d. to 6d. per gallon; low gravity, 6½d. to 7d. per gallon; neutral oil, 6d. to 6½d. per gallon; all *ex* Works in bulk.

Cresylic acid: The new Licensing arrangements are not yet in full operation. Prices remain nominal as under: Pale, 99/100%, 4s. 4d. to 4s. 8d. per gallon; Pale, 97/99%, 4s. to 4s. 3d. per gallon; Dark, 97/99%, 3s. 9d. to 4s. per gallon; all *ex* Works in buyers' packages.

Crude naphtha is unchanged at about 6½d. to 7½d. per gallon *ex* Works in bulk, according to quality.

Solvent naphtha: 90/160 grade is 1s. 8½d. to 1s. 9d. per gallon and 90/190 Heavy Naphtha is 1s. 4½d. to 1s. 5½d. per gallon.

Pyridines continue dull about 14s. per gallon for 90/160 grade and 16s. per gallon for 90/140 grade.

East Blyth Town Council is to ask the Government to approve a proposal to introduce a system of modified street-lighting during the winter months.

Gas Stocks and Shares

The effect of the Russian and Far Eastern news was to bring down the volume of business last week to a minimum. This, however, led to no serious set-back in prices although, if the present uncertainty persists, reactions will inevitably follow. British Funds on the whole, although idle, remained firm, but a few fractional declines were recorded including 2½% Consols which closed ¼ down at 82¼. Small falls were general in the industrial market while leading oil shares were dull. The recent revival of interest in rubber and tea shares slowed down.

The Gas Market was by no means neglected and a more widespread volume of business was recorded. Prices generally were well maintained and it will be seen below that, apart from Gas Light units, which failed to maintain the rise of 3d. recorded a week ago, nearly all the changes were in an upward direction. Alliance and Dublin ordinary changed hands at 94⅜ against the previous transaction at 89⅜ as long ago as May last and headed the list of increases with a gain of 5 points. Commercial ordinary was also inclined to harden but the quotation closed without change.

The following is a complete list of price changes recorded during the week:

OFFICIAL LIST

Alliance & Dublin Ord.	90—95	+5
Gas Light Units	13/—14/-	—/3d.
Imperial Continental	61—66	—1
South Suburban 5 p.c. Deb.	98—103	+1
Tottenham Ord.	71—76	+1
United Kingdom 4 p.c. 1st Cum. Pref.	14/—16/-	+/6d.
" 4 p.c. 1st Red. Cum. Pref. ...	14/6—16/6	+1/-
" 4½ p.c. 2nd Non-Cum. Pref. ...	11/—13/-	+/6d.
Wandsworth Cons.	68—73	+1

SUPPLEMENTARY LIST

Croydon 4 p.c. Deb.	72—77	—3

PROVINCIAL EXCHANGES

Bristol 4 p.c. 1st Deb.	97—100	+1
" 4 p.c. 2nd Deb.	95—98	+1
Sheffield Cons.	112—114	+1
" 4 p.c. Deb.	96—99	+2

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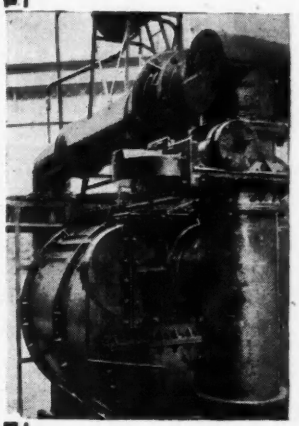

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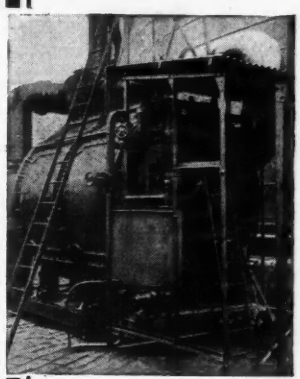

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If our faults whipped them not;
And our crimes would despair,
If they were not cherished by our virtues.
Shakespeare (All's well that ends well).

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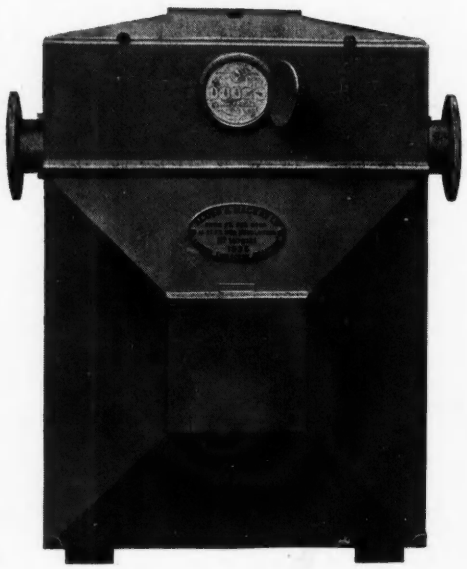

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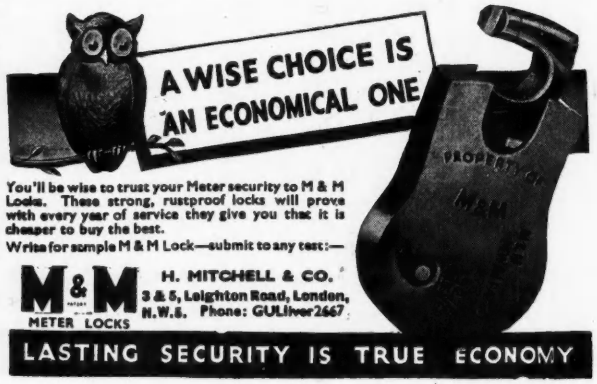

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